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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,345	06/21/2005	Atsushi Sakamoto	81864.0067	6404

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EXAMINER	
SHEEHAN, JOHN P	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
03/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,345	SAKAMOTO ET AL.	
	Examiner	Art Unit	
	John P. Sheehan	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *13-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 21-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/21/05; 12/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 to 12 and 21 to 30 in the reply filed on January 25, 2008 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings filed on June 21, 2005 are accepted by the Examiner.

Information Disclosure Statement

The information disclosure statement filed June 21, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Applicants have not provided a complete copy of each of the Japanese Patent Publications, but rather applicants have provided only the abstract of this document. The submission of only the abstract of the underlying foreign language document is not sufficient for the record

to reflect the submission of the entire document. The abstracts that were submitted have been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 21 to 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. The last 2 lines of claim 21 recite, "the permanent magnet powder is comprised of a population of particles in which the mean grain size if 200 nm or less" (emphasis added by the Examiner). In view of the phrase, "comprised of a population" it is not clear whether this language refers to all of the powder particles or just a selected portion of the powder particles. If this language is referring to less than all of the powder particles, it is not clear what portion of the particles this language is referring to. Without knowing what proportion of the particles this language is referring to the "mean grain size" is basically meaningless.

II. In claims 21 and 30 it is not clear whether the language, "mean grain size" (claim 21, the last line and claim 30, line 2) refers to the particle size of the powder or the crystal grain size of the powder particles. In the paragraph

bridging pages 33 and 34 of the specification the powder particle size is disclosed in terms of microns and not nanometers as recited in claims 21 and 30.

III. Claim 25, lines 3 and 4 recite, "producing a powder subjected to quenching and solidification". It is not clear whether this language means that the powder is produced by the step of quenching and solidification such as in quenching and solidification of a melt of the alloy or whether this language means that the powder is subjected to a quenching and solidification step. If it s is the latter, it not clear how a powder which is already solidified can be subjected to a solidification step.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1 to 12, 21 to 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Iwata (Iwata '728, US Patent No. 5,800,728, cited by the Examiner) or Yang et al. (Yang '759, US Patent No. 6,419,759, cited by the Examiner).

Each of the references teaches a rare earth hard magnetic alloy having a composition that overlaps the alloy composition recited in each of the applicants' claims (Iwata '728, column 2, lines 1 to 22 and Yang '759, column 2, line 63 to column 3, line 15). The alloys taught by each of the references has a $ThMn_{12}$ type structure as recited

in claims 2, 6 and 22 (Iwata '728, column 2, line 1 and Yang '759, column 4, lines 15 to 20). Each of the references teaches that the disclosed alloy is used to make bonded magnets as recited in claims 29 and 30 (Iwata '728, any of the specific examples and Yang '759, column 6, lines 10 to 16). Each of the references teaches a process of making the disclosed rare earth alloy which, while not exactly the same as applicants' method, is very similar to applicants' process (Iwata '728, for example see the Examples and Yang '759, column 4, line 10 to column 6, line 6).

The references and the claims differ in that references do not teach the exact same proportions as recited in the instant claims nor the grain size recited in claims 21 and 30.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by each of the references overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

> "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding the grain size recited in claims 21 and 30, it is the Examiner's position that, in view of the fact that the alloys taught by the references are made by a process which is very similar to applicants' process of making the instantly claimed alloy, the alloy taught by the references would be expected to posses all the same properties as recited in the instant claims, including the grain size recited in claims 21 and 30 In re Best, 195 USPQ, 430 and MPEP 2112.01.

> "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada,15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best,195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Allowable Subject Matter

8. Claims 25 to 28 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter in claims 25 to 28: The primary reason for the indication that claims 25 to 28 are directed to allowable subject matter is that none of the references alone or in combination teach or suggest a method for producing a permanent magnet powder, characterized by comprising the steps of:

producing a powder subjected to quenching and solidification wherein:

the composition of the powder is represented by a general formula $R(Fe_{100-y-w}Co_wTi_y)_xSi_z$ (in the general formula, R is at least one element selected from rare earth elements (here the

rare earth elements signify a concept inclusive of Y), Nd accounts for 50 mol% or more of said R); and

the molar ratios in said general formula are such that $x = 10$ to 12.8, $y = (8.3 - 1.7 \times z)$ to 12.3, $z = 0.1$ to 2.3 and $w = 0$ to 30, and the relation $(Fe + Co + Ti + Si)/R > 12$ is satisfied;

heat-treating said powder so that the powder is maintained in an inert atmosphere at 650 to 850°C for 0.5 to 120 hours; and

nitriding or carbiding said heat-treated powder.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/
Primary Examiner, Art Unit 1793